Precaution Notice

Only a technician, authorized by ENERMAX, is allowed to perform maintenance service! Warranty is subject to void under unauthorized attempt to open the power case or modification of any kinds, even attempted only, of the power supply or its components!

ENERMAX will not be responsible for damages caused by following situations:

- Opening of the PSU case and/or modification of any component or cable without ENERMAX' written authorization
- Ignoring connector's wrong insertion prevention design by attaching a connector to a device in wrong orientation
- Connecting too many devices to one cable unit by using additional adaptor (Y cables) or exceeding ENERMAX Eternity-connector recommendation which may cause voltage drop to the devices and eventually damage them.
- Usage of non-genuine ENERMAX modular cables
- Damage caused by natural phenomena or uncontrollable forces, such as lightning, flooding, fire, earthquake, etc.

This ENERMAX Technology Corporation product is warranted to be free from defects in material and workmanship for a period of three (3) years from the date of purchase. ENERMAX Technology Corporation agrees to repair or replace the product, at its own option and at no charge, if, during the warranty period, it is returned to nearest ENERMAX Technology Corporation subsidiary/agent with all shipping charges prepaid and bearing a return merchandize authorization (RMA) number, and if inspection reveals that the product is defective. Charges for removing or installing the product are excluded under the terms of this warranty agreement. This warranty shall not apply to any product, which has been subject to connection to a faulty power source, alteration, negligence, or accident, or to any product, which has been installed other than in accordance with these instructions. In no event shall ENERMAX Technology Corporation, or its subsidiaries, or agents be liable for damages for a breach of warranty in an amount exceeding the purchase price of this product!

If you are uncertain whether or not your ENERMAX PSU is defective, please contact your dealer/reseller for support!

Web Site: http://www.enermax.com
E-mail: enermax@enermax.com.tw

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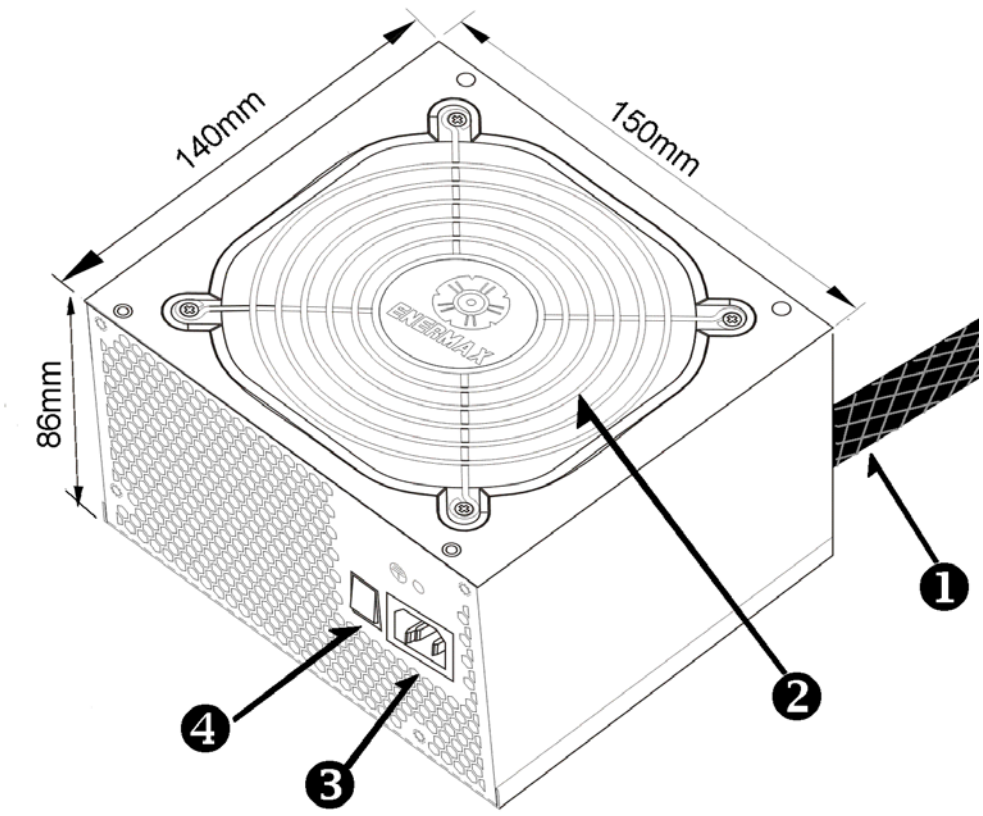


Name of Parts

1. Output cable: Please check “Cables & Connectors” section
2. 12cm fan.
3. AC inlet*
4. I/O switch*: individual PSU on/off switch (I= ON, O=OFF)

※ When assemble or maintain the system, please remove AC cord from AC inlet, or turn I/O switch into “O” position.

Specifications

Model / Spec	EPR385AWT		EPR425AWT		EPR525AWT		EPR625AWT	
AC input	100-240VAC, 50-60Hz, automatic adjustment, active PFC Max. range: 90-265VAC							
Input current	6-2.5A		6.7-3A		7.5-3.5A		9.5-4A	
DC Output								
	Rated	Combined	Rated	Combined	Rated	Combined	Rated	Combined
+3.3V	0.1-20A	110W	0.1-20A	120W	0.1-24A	140W	0.1-24A	140W
+5V	0.1-20A		0.1-20A		0.1-24A		0.1-24A	
+12V1	0.1-20A	360W (30A)	0.1-22A	396W (33A)	0.1-25A	480W (40A)	0.1-25A	600W (50A)
+12V2	0.5-20A		0.5-22A		0.5-25A		0.5-25A	
+12V3			0-22A		0-25A		0-25A	
-12V	0-0.6A	7.2W	0-0.6A	7.2W	0-0.6A	7.2W	0-0.6A	7.2W
+5Vsb	0-3A	15W	0-3A	15W	0.0-3A	15W	0-3A	15W
Total Power	385W		425W		525W		625W	

Protection Circuits

Over Current Protection	**DC Rails**	**Trigger Range**
	+3.3V	28–40A
	+5V	28–40A
	+12V1/2/3	25–30A (385/425W) / 30-35A (525/625W)
Over Voltage Protection	**DC Rails**	**Trigger Range**
	+3.3V	3.7 – 4.1V
	+5V	5.7 – 6.5V
	+12V1/2/3	13.1 – 14.5V
(DC) Under Voltage Protection	**DC Rails**	**Trigger Range**
	+3.3V	2.0-2.4V
	+5V	3.3-3.7V
	+12V1/2/3	8.5-9.5V
(AC) Under Voltage Protection	Activated when AC input voltage < 80VAC.	
Over Power Protection	Activated when output power >110-150% of max load.	
Short Circuit Protection	Activated when any DC rails short circuited.	
Over Temperature Protection	Activated when PSU temp. >90-110°C / 194-230 °F	

Environment

Temperature	Operation ambient: 0~40°C/32~104°F (for full rated output) Storage ambient: -40~70 °C/-40~158 °F
Humidity	Operation: to 85% relative humidity, non-condensing at 25 °C / 77 °F Storage: to 95% relative humidity, non-condensing at 50 °C / 122 °F

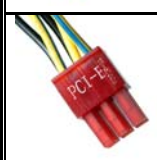
Others

Power Factor	> 0.97 (Active PFC)
Efficiency	82%-85% @ 115VAC, 84-88% @ 230VAC (80 PLUS® testing standard)
Cooling	One 12cm fan, 450-1500RPM (±10%)@25°C ambient; 450-2000RPM (±10%)@40°C ambient, speed auto controlled
MTBF	> 100K hours under 70% of full rated load, 230VAC/50Hz input, 25 °C ambient (MIL-HDBK-217F standard)
Dimension	150 (W) x 86 (H) x 140 (D) mm
Weight	1.6kg(for 385/425W) / 2.2.kg(for 525W & 625W)
Safety	UL/cUL, TUV, BSMI, CCC, GOST, CB report
EMC	CE (EN61204-3 standard), FCC, MIC

Dear customer,

Thank you for choosing this ENERMAX PRO82+ power supply unit (PSU)! Please read this manual carefully and follow its instructions, before installing the PSU.

CABLES & CONNECTORS

<table>
<tr><th colspan="2">385W & 425W</th><th colspan="2">525W & 625W</th></tr>
<tr><td rowspan="2">  </td><td>(20+4)P Mainboard,
in combined mode
24-pin configuration supports latest ATX/BTX PC & dual CPU EEB/CEB server/workstation boards.</td><td rowspan="2">  </td><td rowspan="2">24P Mainboard
24-pin configuration supports latest ATX/BTX PC & dual CPU EEB/CEB server/workstation boards.</td></tr>
<tr><td> 
(20+4)P Mainboard,
in split mode
20-pin configuration supports former ATX systems.</td></tr>
<tr><td>  </td><td colspan="3">4+4P CPU +12V,
in combined mode
8-pin configuration supports dual CPU server/workstation systems and some single CPU PC systems.</td></tr>
<tr><td>  </td><td colspan="3">4+4P CPU +12V,
in split mode
4-pin configuration supports most ATX/BTX systems. Please use the connector with “12V” marking.</td></tr>
<tr><td>  </td><td colspan="3">6+2P (8P) PCI Express, in combined mode (425/525/625W)
8-pin configuration supports latest extreme graphic cards, which require 8pin PCI-E connector.</td></tr>
<tr><td>  </td><td colspan="3">6+2P (8P) PCI Express, in split mode (425/525/625W)
6-pin configuration supports most performance PCI-E graphic cards, which require 6-pin PCI-E connector.</td></tr>
<tr><td>  </td><td colspan="3">6P PCI Express 1.0
For most performance PCI Express graphic card, which requires 6P PCI Express power connector.</td></tr>
<tr><td>  </td><td>SATA
For SATA drives. *</td><td colspan="2" rowspan="2">*Some SATA drives might accept SATA or 4P Molex power. Normally, use either one of power connector to power the driver, BUT NOT BOTH! Please check the drive’s manual for details.</td></tr>
<tr><td>  </td><td>4P Molex
For IDE/SCSI drives or some AGP graphic card with traditional 4P power in socket.</td></tr>
<tr><td>  </td><td colspan="3">FDD
For floppy drive.</td></tr>
<tr><td>  </td><td colspan="3">FM (FAN RPM MONITOR)
For 12cm fan RPM detection.
Normal fan speed for PRO82+ is 450-2000RPM (±10%).</td></tr>
</table>

COMPATIBILITY

- ENERMAX PRO82+ series is compliant with:
  - Intel ATX12V Power Supply Design Guide v2.3 specification and downward compatible with v2.0, v2.01 and v2.2
  - ATX System Design Guide v2.2, v2.1
  - BTX/ EEB/ CEB/EPS12V

This PSU does not support MB with ISA expansion slot, which might require –5V power. –5V has been cancelled from Intel ATX12V v1.3 specification onwards.

- To avoid failures and to increase lifetime of your entire PC, we suggest you to make sure that:
  - Your PC is NOT located near a radiator or any other heat producing device
  - Your PC is NOT located near a magnetic device
  - Y our PC is NOT located in a moist and/or dusty and/or vibrating environment
  - Your PC is NOT exposed to direct sunshine
  - Your PC is sufficiently cooled by additional fans

We do not recommend using PC systems with fanless cooling, because a potentially high inner temperature decreases stability and lifetime of all components inside your PC!

BOOTING YOUR SYSTEM

Before booting your system, please check that:

1. Main power connector (20 or 24-pin configuration) is properly connected.
2. CPU +12V power connector (4 or 8-pin configuration), and/or a 4P Molex connector (if required by MB) is properly connected.
3. All other needed connectors are properly connected.
4. AC cord is properly connected to wall plug and PSU AC inlet.
5. Close your PC chassis.
6. Turn on the power supply by switching the I/O switch to “I”, and your system is ready.

PROTECTION, SAFETY & SECURITY

This ENERMAX PSU features multiple protections. In case of most abnormal situations, the power supply will automatically turn off to avoid potential danger to itself and other PC components. It is usually a malfunction of components or user’s negligence to trigger off a protection event. In such circumstance, please check your PC devices and working environment for malfunction:

1. Turn I/O switch of power supply into “O” position, or disconnect AC cord from wall plug and power supply AC inlet.
2. Check PSU for temperature by simply touching it. If it is very hot, this can be caused by malfunction of case fans or the PSU fan itself and/or wrong positioning of your PC.
3. Wait some minutes until PSU cools off.
4. Reconnect AC cord to wall plug and power supply AC inlet.
5. Turn I/O switch of power supply into “I” position, and reboot your system.
6. Check, if all fans are working.
7. Contact technical support of the respective manufacturer of the component which you think might be the cause to the problem. (e.g. MB, GPU or PSU)

If you have any question or need support, please contact your reseller or nearest ENERMAX subsidiary/agent or ENERMAX headquarter service center.

Web Site: http://www.enermax.com
E-mail: enermax@enermax.com.tw

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